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#### (54) SILICON CARBIDE SEMICONDUCTOR DEVICE AND METHOD OF MANUFACTURING THE SAME

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#### (57) ABSTRACT

A silicon carbide semiconductor device having excellent performance characteristics and a method of manufacturing the same are obtained. An extended terrace surface is formed at a surface of an initial growth layer on a 4H—SiC substrate by annealing with the initial growth layer covered with an Si film, and then a new growth layer is epitaxially grown on the initial growth layer. A 3C—SiC portion having a polytype stable at a low temperature is grown on the extended terrace surface, and a 4H—SiC portion is grown on the other region. A trench is formed by selectively removing the 3C—SiC portion with the 4H—SiC portion remaining, and a gate electrode of a UMOSFET is formed in the trench. A channel region of the UMOSFET can be controlled to have a loworder surface, and a silicon carbide semiconductor device having high channel mobility and excellent performance characteristics is obtained.

